

## CLAIMS

1, 5-7, 11-13 and 15-19

- 1 1. A method of detecting rotational speed and angular position of a rotating wheel with a non-  
2 contact sensor that provides a pulse train output signal, said method comprising:  
3 comparing the amplitude of the pulses of the pulse train output signal with a first variable  
4 switching threshold value; and  
5 adjusting said switching threshold value when the difference between the amplitudes of the  
6 pulses and said switching threshold value exceeds a fixable first maximum value.
- 1 2. A method of processing a pulse train output signal provided by a non-contact sensor that senses  
2 the rotational speed and angular position of a rotating wheel, said method comprising:  
3 comparing the positive and negative amplitude of pulses of the pulse train output signal or their  
4 maxima and minima with a second variable switching threshold value, which is adjusted so the  
5 difference between the extremes or the amplitudes of the pulses and said second variable switching  
6 threshold does not exceed a fixable second maximum value.
- 1 3. A method of processing a pulse train output signal provided by a non-contact sensor that senses  
2 the rotational speed and angular position of a rotating wheel, said method comprising:  
3 comparing the amplitudes of the pulses with a third variable switching threshold, adjusting the  
4 value of said third variable switching threshold value if the difference between the amplitudes of two

5 successive pulses exceeds a fixable third maximum value.

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1 4. A method of processing a pulse train output signal provided by a non-contact sensor that senses  
2 the rotational speed and angular position of a rotating wheel, said method comprising:

3 comparing the pulses with a fourth variable switching threshold value that is adjusted if the  
4 difference of the frequencies of successive pulses trains exceeds a fixable fourth maximum value.

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1 5. The method of claim 1, wherein said switching threshold is adjusted if the difference between  
2 the amplitudes of the pulses and said switching threshold exceeds said fixable first maximum, and at  
3 the same time the difference between the extremes or the amplitudes and said switching threshold  
4 exceeds a fixable second maximum.

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1 6. The method of claim 1, wherein said switching threshold is adjusted if the difference between  
2 the amplitudes of the pulses and said switching threshold exceeds said fixable first maximum, and at  
3 the same time the difference of the amplitudes of two successive pulses exceeds a fixable third  
4 maximum.

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1 7. The method of claim 1, wherein said switching threshold is adjusted if the difference between  
2 the amplitudes of the pulses and said switching threshold exceeds said fixable first maximum, and at  
3 the same time the difference of the frequencies of successive pulses exceeds a fixable fourth maximum.

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1 8. The method of claim 2, wherein the switching threshold is adjusted if the difference between  
2 the extremes or the amplitudes of the pulses and the switching threshold exceeds said second fixable  
3 maximum, and at the same time the difference between the amplitudes of two successive pulses  
4 exceeds a fixable third maximum.

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1 9. The method of claim 2, wherein said switching threshold is adjusted if the difference between  
2 the extremes or the amplitudes of the pulses and said switching threshold exceeds said fixable second  
3 maximum, and at the same time the difference of the frequencies of successive pulses exceeds a fixable  
4 fourth maximum.

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1 10. The method of claim 3, wherein said switching threshold is adjusted if the difference of the  
2 amplitudes of two successive pulses exceeds said fixable third maximum, and at the same time the  
3 difference of the frequencies of successive pulses exceeds a fixable third maximum.

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1 11. The method of claim 1, wherein said switching threshold is adjusted if the difference between  
2 the amplitudes of the pulses and said switching threshold exceeds the fixable first maximum, and at the  
3 same time the difference between the extremes or the amplitudes of the pulses and the variable  
4 switching threshold exceeds a fixable second maximum, and at the same time the difference between  
5 the amplitudes of two successive pulses exceeds a fixable third maximum.

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1 ~~12. The method of claim 1, wherein said switching threshold is adjusted if the difference between~~  
2 ~~the amplitudes of the pulses and said switching threshold exceeds said fixable first maximum, and at~~  
3 ~~the same time the difference between the extremes or the amplitudes and the variable switching~~

Sub  
A2

Sms  
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(contd)

~~threshold exceeds a fixable second maximum, and at the same time the difference of the frequencies of~~  
5 successive pulses exceeds a fixable fourth maximum.

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1 13. The method of claim 1, wherein said switching threshold is adjusted if the difference between  
2 the amplitudes of the pulses and said switching threshold exceeds said fixable first maximum, and at  
3 the same time the difference of the amplitudes of two successive pulses exceeds a fixable second  
4 maximum, and at the same time the difference of the frequencies of successive pulses exceeds a fixable  
5 third maximum.

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1 14. The method of claim 2, wherein said switching threshold is adjusted if the difference between  
2 the extremes or the amplitudes of the pulses and said variable switching threshold exceeds said fixable  
3 second maximum, and at the same time the difference between the amplitudes of two successive pulses  
4 exceeds a third fixable maximum, and at the same time the difference of the frequencies of successive  
5 pulses exceeds a fixable fourth maximum.

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1 15. The method of claim 1, wherein said switching threshold is adjusted if the difference between  
2 the amplitudes and the pulses and said switching threshold exceeds said fixable first maximum, and at  
3 the same time the difference between the extremes or the amplitudes of the pulses and the variable  
4 switching threshold exceeds a fixable second maximum, and at the same time the difference between  
5 the amplitude of two successive pulses exceeds a fixable third maximum, and at the same time the  
6 difference of the frequencies of successive pulses exceeds a fixable fourth maximum.



1 16. The method of claim 15, comprising an evaluation circuit receives said pulses and determines  
2 the relative angular position of the wheel and its instantaneous rotational velocity, and provides signals  
3 indicative thereof.

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1 17. The method of claim 15, wherein the value of said switching threshold is increased if the  
2 difference of the amplitudes has a positive sign, and the value of said switching threshold is lowered if  
3 the difference signal has a negative sign.

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1 18. The method of claim 15, wherein the value of said switching threshold is increased if the  
2 difference of the frequencies has a positive sign, and is lowered if the difference of the frequencies has  
3 a negative sign.

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1 19. The method of claim 15, comprising the step of enabling the adjustment of said threshold signal  
2 if a received synchronization signal is valid.

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